Demographic Trends and Economic Impact

Understanding the intricate relationship between demographic trends and economic indicators is pivotal in interpreting the dynamics of a nation. This research focuses on the impact of the Indian subcontinent, Hispanic community, and African American population in 2017 across various U.S. counties on the GDP per capita change rate from 2017 to 2022. Demographic trends play a pivotal role in shaping the socio-economic landscape of a country. The United States, being a melting pot of diverse cultures, experiences population changes that can significantly impact its economic indicators. The Indian subcontinent, Hispanic, and African American populations represent three substantial demographic groups contributing to the country's diversity.

The central question addressed in this research is: Which of the three races—Indian subcontinent, Hispanic, or African American—exerts a more pronounced effect on the GDP of the United States from 2017 to 2022?

The Hispanic population has the most significant positive impact on GDP, followed by the South Asian population. Conversely, the impact on GDP is less favorable for the Black population, showing a comparatively lower contribution. We used scatter plots, histograms, and bar plots to represent our data. Histograms depicted the distribution of data, showcasing that metropolitan areas exhibited the highest GDP per capita change rate in comparison to rural and micropolitan areas. The data distribution was consistently normal over the years. The scatter plot for the Hispanic population demonstrated a stronger relationship compared to those for the Indian and African American populations. Bar plots further reinforced that metropolitan areas exhibited the highest improvement in contrast to rural and micropolitan areas. Additionally, the linear model highlighted that the Hispanic population of 2017 had a significant impact on GDP per capita change from 2017 to 2022. Challenges encountered during data cleaning, such as utilizing gsub to remove leading zeros in GEOID, underscore the intricacies of working with large datasets. The necessity of employing a full join during data merging allowed for the inclusion of N/A values, facilitating the classification of areas as rural and urban and providing a comprehensive view of the demographic-economic landscape. Placing these findings in a broader context, it becomes evident that understanding the interplay between population dynamics and economic variables is essential for informed policy decisions. The outcomes of this research contribute to a nuanced understanding of how specific racial demographics may impact regional and national economic trends.

Beyond the immediate focus on the three identified racial groups, the methodology developed in this study has broader implications for demographic-economic research. It underscores the importance of accurate data, effective cleaning processes, and robust analytical approaches when investigating the intricate relationships between population dynamics and economic indicators.

Citation (Chicago Style)

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